

### Minimal Pairs

Example 1: The words “cab” [kæb] and “gab” [gæb] are a minimal pair that demonstrate the English /k-/g/ contrast in initial position.

Example 2: The words “back” [bæk] and “bag” [bæg] are a minimal pair that demonstrate the English /k-/g/ contrast in final position.

Practice Q1: Find a minimal pair to demonstrate the /tʃ/ and /ʃ/ contrast in English, in both initial and final positions.

Practice Q2: Find a minimal pair to demonstrate the /ai/ and /aʊ/ contrast in English, in both initial and final positions.

### Data Set 1: Finnish

Finnish	English
1 - [madon]	“of a worm”
2 - [kadot]	“failures”
3 - [kate]	“cover”
4 - [ratas]	“wheel”
5 - [kade]	“envious”
6 - [radan]	“of a track”

Examine the distribution of [d] and [t] in Finnish (a Uralic language spoken primarily in Finland) and answer the questions below.

1. State whether you think [d] and [t] are allophones of separate phonemes or allophones of the same phoneme.
2. Are [d] and [t] in contrastive or complementary distribution?
3. If [d] and [t] are allophones of separate phonemes, what evidence did you use to make your decision?
4. If [d] and [t] are allophones of the same phoneme, then: (a) state the distributions of the allophones; (b) state which sound you think is the underlying phoneme and why; (c) write a rule to derive the allophone(s); (d) explain why it makes sense to group the allophones together from an articulatory perspective.

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Data Set 2: Maasai

Maasai	English
1 - [ɓar:iyoɪ]	“reddish brown”
2 - [ɓiyai]	“elsewhere”
3 - [eŋgamaniyi]	“name of age-set”
4 - [eŋgila]	“garment-diminutive”
5 - [eŋgiruðoðo]	“fright”
6 - [eŋyoɪ]	“sin”
7 - [ilarak]	“murderers”
8 - [ilke:k]	“trees”
9 - [imbayiβak]	“you are restless”
10 - [kaye]	“but”
11 - [koyo:]	“grandmother”
12 - [sarkin]	“intermarriage taboo”

Examine the distribution of [k], [g], and [ɣ] in Maasai (an Eastern Nilotic language spoken primarily in southern Kenya and northern Tanzania) and answer the questions below.

1. State whether you think [k], [g], and [ɣ] are allophones of separate phonemes or allophones of the same phoneme.
  2. Are [k], [g], and [ɣ] in contrastive or complementary distribution?
  3. If [k], [g], and [ɣ] are allophones of separate phonemes, what evidence did you use to make your decision?
  4. If [k], [g], and [ɣ] are allophones of the same phoneme, then: (a) state the distributions of the allophones; (b) state which sound you think is the underlying phoneme and why; (c) write a rule to derive the allophone(s); (d) explain why it makes sense to group the allophones together from an articulatory perspective.
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Data Set 3: Setswana

<b>Setswana</b>	<b>English</b>
1 - [lefifi]	“darkness”
2 - [selepe]	“axe”
3 - [xobala]	“to read”
4 - [lerumə]	“spear”
5 - [loxadima]	“lightning flash”
6 - [dumela]	“greetings”
7 - [lokwalə]	“letter”
8 - [mosadi]	“woman”
9 - [badisa]	“the herd”
10 - [loleme]	“tongue”
11 - [molomo]	“mouth”
12 - [mmadi]	“reader”
13 - [xopala]	“to marry”
14 - [didzə]	“food”
15 - [feedi]	“sweeper”
16 - [k <sup>h</sup> udu]	“tortoise”
17 - [podi]	“goat”
18 - [hudi]	“wild duck”

Examine the distribution of [l] and [d] in Setswana (a Bantu language spoken primarily in Botswana, South Africa, and Zimbabwe) and answer the questions below.

1. State whether you think [l] and [d] are allophones of separate phonemes or allophones of the same phoneme.
  2. Are [l] and [d] in contrastive or complementary distribution?
  3. If [l] and [d] are allophones of separate phonemes, what evidence did you use to make your decision?
  4. If [l] and [d] are allophones of the same phoneme, then: (a) state the distributions of the allophones; (b) state which sound you think is the underlying phoneme and why; (c) write a rule to derive the allophone(s); (d) explain why it makes sense to group the allophones together from an articulatory perspective.
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